

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A nucleic acid sequence selected from:
 - a) a sequence of nucleotides consisting of from nucleotide 100 to nucleotide 649 of the genome of a group 1 coronavirus, said nucleotide sequence including the encapsidation sequence of said coronavirus;
 - b) a nucleic acid sequence analogous to the sequence defined in a) that contains the encapsidation sequence of a group 1 coronavirus;
 - c) a nucleic acid sequence complementary to either of said sequences a) or b), and or
 - d) a nucleic acid sequence with a secondary structure similar to that of an encapsidation sequence (ES) of a group 1 coronavirus, independent of the primary nucleotide sequence.
2. (Currently Amended) ~~Sequence~~ The nucleic acid sequence according to Claim 1, wherein said nucleic acid is ~~any molecule of~~ DNA or RNA.
3. (Currently Amended) ~~Sequence~~ The nucleic acid sequence according to Claim 1, wherein said group 1 coronavirus is selected from the group ~~made-up~~ consisting of porcine, canine, feline, and human coronaviruses.
4. (Currently Amended) ~~Sequence~~ The nucleic acid sequence according to Claim 1, ~~made-up of~~ comprising the nucleotide sequence shown in SEQ. ID. No.: 1, ~~or by~~ a fragment thereof, which contains the encapsidation sequence of the porcine transmissible gastroenteritis virus (TGEV).

5. (Currently Amended) A nucleic acid construct ~~that includes a~~ comprising ~~the~~ nucleic acid sequence according to ~~any of Claims 1, together with, optionally, a~~ transcription promoter sequence Claim 1.

6. (Currently Amended) A plasmid ~~that contains said~~ comprising the nucleic acid sequence according to ~~any of Claims 1-4, or said nucleic acid construct~~ according to Claim 5 Claim 1.

7. (Currently Amended) A vector that includes comprising:
a first nucleic acid sequence (I) selected from (i) a nucleic acid sequence corresponding to the complete genome, or a part thereof, of a group 1 coronavirus, ~~and~~ or (ii) a nucleic acid sequence of another virus that has a sequence identity equal to or greater than 60% with said sequence (i); from which at least one gene essential to assembly of said virus has been deleted; and
a second nucleic acid sequence ~~according to any of Claims 1-4~~ comprising the nucleic acid sequence of Claim 1.

8. (Currently Amended) ~~Vector~~ The vector according to Claim 7, wherein said ~~nucleic acid sequence according to any of Claims 1-4~~ second nucleic acid sequence has been inserted in a position of the nucleic acid sequence (I) other than its original position in the wild viral genome, or in a position adjacent to or immediately to the side of the deleted gene, or one of the deleted genes, in said nucleic acid sequence (I).

9. (Currently Amended) ~~Vector~~ The vector according to Claim 7, wherein said nucleic acid sequence (I) is the complete genome sequence of a group 1 coronavirus, or a fragment thereof, from which at least one gene essential to the assembly of said coronavirus has been deleted, and in which said ~~nucleic acid sequence according to any of Claims 1-4~~ has been second nucleic acid sequence is located in a position other than its original position in the wild coronavirus.

10. (Currently Amended) ~~Vector~~ The vector according to Claim 9, wherein said nucleic acid sequence (I) is the sequence of the complete genome of a group 1 coronavirus, or a fragment thereof, from which at least one gene essential to the assembly of said coronavirus has been deleted, and in which said ~~nucleic acid sequence according to any of Claims 1-4 has been~~ second nucleic acid sequence is located in a position adjacent to or immediately to the side of the deleted gene or one of the deleted genes.

11. (Currently Amended) ~~Vector~~ The vector according to ~~any of Claims 7-10~~ Claim 7, which also includes further comprising a heterologous nucleic acid sequence which codes for a determined activity, under control of the transcription regulatory elements present in said vector.

12. (Currently Amended) ~~Method~~ A method for producing a product of interest ~~that includes comprising~~ cultivating a host cell ~~that contains a vector according to Claim 11~~ under conditions that permit the expression of the heterologous nucleic acid, wherein said host cell comprises the vector according to Claim 11, and recovery of the product of interest.

13. (Currently Amended) A method for producing a recombinant coronavirus ~~that includes comprising~~ introducing a viral vector according to ~~any of Claims 7-11~~ Claim 7 into a host cell, cultivating said host cell ~~that contains said vector~~ under conditions that permit the expression and replication of the vector and recovering the virions obtained from the recombinant coronavirus.

14. (Currently Amended) A host cell ~~that includes comprising~~ a vector according to ~~any of Claims 7-11~~ Claim 7.

15. (Currently Amended) A vaccine capable of protecting an animal against infection caused by an infectious agent ~~that includes (i)~~ comprising at least one vector according to Claim 11, which expresses at least one antigen capable of inducing an immune response to said infectious agent, or an antibody that provides

protection against said infectious agent, ~~together with, optionally (ii) a pharmaceutically acceptable inactive ingredient.~~

16. (Currently Amended) ~~Vaccine~~ The vaccine according to Claim 15, wherein said vector expresses at least one antigen capable of inducing a systemic immune response and/or an immune response in mucosa to different infectious agents that propagate in the respiratory or enteric mucosa.

17. (Currently Amended) A multivalent vaccine capable of protecting an animal against infection caused by more than one infectious agent ~~including (i) comprising~~ a vector according to Claim 11, which expresses antigens capable of inducing an immune response to said infectious agents, or antibodies that provide protection against said infectious agents, ~~together with, optionally (ii) a pharmaceutically acceptable inactive ingredient.~~

18. (Currently Amended) ~~Multivalent~~ A multivalent vaccine capable of protecting an animal against infection caused by more than one infectious agent, ~~including (i) comprising~~ more than one vector according to Claim 11, each of which express an antigen capable of inducing an immune response to each one of said infectious agents, or antibodies that provide protection against each one of said infectious agents, ~~together with, optionally, (ii) a pharmaceutically acceptable inactive ingredient.~~

19. (New) The nucleic acid construct of Claim 5, further comprising a transcription promoter sequence.

20. (New) A plasmid comprising the nucleic acid construct according to Claim 5.

21. (New) The vaccine of Claim 15, further comprising a pharmaceutically acceptable inactive ingredient.

22. (New) The multivalent vaccine of Claim 17, further comprising a pharmaceutically acceptable inactive ingredient.

23. (New) The multivalent vaccine of Claim 18 further comprising a pharmaceutically acceptable inactive ingredient.